

Claims

1 1. An automated method of managing computing resources having a workload of
2 a given type, the method comprising:

3 providing resource data collectors for collecting data regarding performance of the
4 resources, in accordance with the type of workload;

5 developing a forecast of utilization of the resources, based on historical
6 performance data;

7 collecting real-time performance data regarding the resources running under the
8 workload;

9 analyzing the real-time performance data and the forecast to identify a critical
10 resource; and

11 automatically adjusting a capacity of the resource to provide steady-state
12 performance of said resource under said workload.

1 2. The method of claim 1 wherein said resources comprise a server network.

1 3. The method of claim 1 further comprising setting threshold values for said
2 performance data and identifying the resource in accordance with the threshold values.

1 4. The method of claim 1 further comprising:

2 notifying a user of the computing resources when the critical resource is a
3 hardware resource; and

4 notifying the user when the capacity of said hardware resource is adjusted.

1 5. The method of claim 1 further comprising initially providing additional
2 hardware resources available to, but unused by, the computing resources.

1 6. The method of claim 5 wherein the additional hardware resources are selected
2 from the group consisting of CPUs, computer memory and computer disk storage.

1 7. A program storage device readable by a machine, tangibly embodying a
2 program of instructions executable by the machine to perform an automated method of
3 managing computing resources having a workload of a given type, using resource data
4 collectors for collecting data regarding performance of the resources in accordance
5 with the type of workload, and a forecast of utilization of the resources based on
6 historical performance data, said method steps comprising:

7 collecting real-time performance data regarding the resources running under the
8 workload;

9 analyzing the real-time performance data and the forecast to identify a critical
10 resource; and

11 automatically adjusting a capacity of the resource to provide steady-state
12 performance of said resource under said workload.

1 8. The program storage device of claim 7 wherein said resources comprise a
2 server network.

1 9. The program storage device of claim 7 wherein the method steps further
2 comprise setting threshold values for said performance data and identifying the
3 resource in accordance with the threshold values.

1 10. The program storage device of claim 7 wherein the method steps further
2 comprise:

3 notifying a user of the computing resources when the critical resource is a
4 hardware resource; and

5 notifying the user when the capacity of said hardware resource is adjusted.

1 11. The program storage device of claim 7 wherein the computing resources
2 further include additional hardware resources available to, but unused by, the
3 computing resources.

1 12. The program storage device of claim 11 wherein the additional hardware
2 resources are selected from the group consisting of CPUs, computer memory and
3 computer disk storage.

1 13. A computer program product for performing an automated method of
2 managing computing resources having a workload of a given type, using resource data
3 collectors for collecting data regarding performance of the resources in accordance
4 with the type of workload, and a forecast of utilization of the resources based on
5 historical performance data, said computer program product having:

6 computer-readable program code for collecting real-time performance data
7 regarding the resources running under the workload;

8 computer-readable program code for analyzing the real-time performance data and
9 the forecast to identify a critical resource; and

10 computer-readable program code for automatically adjusting a capacity of the
11 resource to provide steady-state performance of said resource under said
12 workload.

1 14. The computer program product of claim 13 wherein said resources comprise a
2 server network.

1 15. The computer program product of claim 13 wherein the computer program
2 product further comprises computer-readable program code for setting threshold
3 values for said performance data and computer-readable program code for identifying
4 the resource in accordance with the threshold values.

1 16. The computer program product of claim 13 wherein the computer program
2 product further comprises:

3 computer-readable program code for notifying a user of the computing resources
4 when the critical resource is a hardware resource; and

5 computer-readable program code for notifying the user when the capacity of said
6 hardware resource is adjusted.

1 17. The computer program product of claim 13 wherein the computer program
2 product further includes additional hardware resources available to, but unused by, the
3 computing resources.

1 18. The computer program product of claim 17 wherein the additional hardware
2 resources are selected from the group consisting of CPUs, computer memory and
3 computer disk storage.